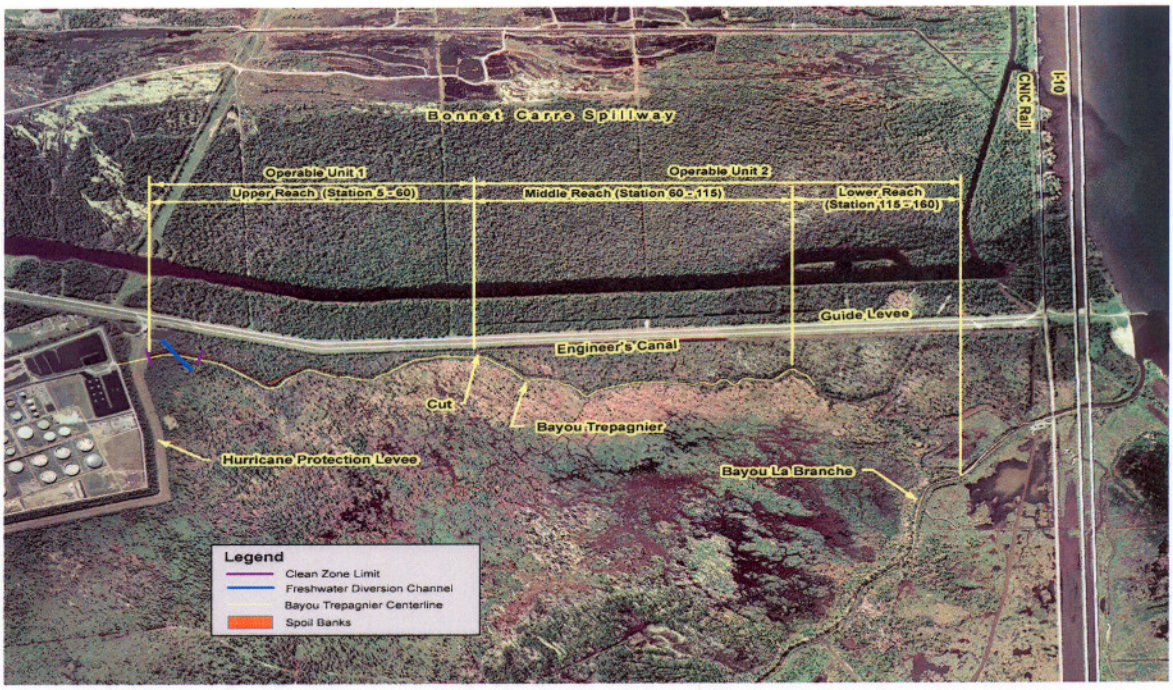
Bayou Trepagnier
Agency Interest # 44765
Norco, Louisiana

Since spring 2001, LDEQ has worked with the responsible party, other federal and state agencies, and non-governmental organizations to develop solutions for the cleanup of the Bayou Trepagnier site. Bayou Trepagnier is located east of the lower guide levee north of Airline Highway (U.S. 61) near Norco. The bayou received discharges of wastewater from petroleum refinery operations from the 1930's to 1995. The site was split into two identifiable units – Operable Unit 1 (OU1) and Operable Unit 2 (OU2). OU1 is the upper reach of the bayou and extends approximately 5,500 feet in length. OU2 is the middle and lower reach of the bayou that comprises approximately 10,000 feet in length. A public meeting was held on June 5, 2007 to present the proposed remedy for the upper reach OU1 of Bayou Trepagnier. The proposed remedy of OU1 includes sediment stabilization and capping, construction of a clean zone for any potential conveyance of Mississippi River water into the LaBranch Wetlands, closure of the small "cut" into Engineer's Canal, and other ancillary activities. The decision document, a project milestone, is expected to be signed by LDEQ in early FY 2007-08. It outlines the final remedy for the upper reach OU1 of Bayou Trepagnier. LDEQ plans to formulate a cooperative agreement with the responsible party, which will detail the requirements, actions required, and deadlines for the future remedial action for OU1.



Aerial Overview of Bayou Trepagnier

Typical Segment of Bayou Trepagnier

Bayou Bonfouca
Agency Interest # 4716
Slidell, Louisiana

The Bayou Bonfouca Superfund Site is located near the north shore of Lake Ponchartrain and right on Bayou Bonfouca in Slidell, St. Tammany Parish. The site includes the former American Creosote Works Plant and a portion of the bayou that adjoins the site. About 750 residents live within one mile of the site. Since the 1800's the site had been used for commercial wood-treating operations involving creosote. During the plant's operation there were numerous creosote releases. There were eight highly contaminated creosote areas at the site. Between 1970 and 1972, the plant was disassembled. In the early 1970's a fire occurred at the plant; several large storage tanks were ruptured during the fire, causing creosote to flow onto the site and into the bayou. The site was included on the National Priorities List (NPL) in December of 1982. The Record of Decision (ROD), signed on August 15, 1985, called for excavating contaminated soils and sediments from the bayou. In addition approximately 40 groundwater recovery wells were installed to recover and treat contaminated groundwater around the site. Groundwater recovery and treatment is still ongoing. Over 170,000 cubic yards of sediments were incinerated, and the ash was stored in an on-site Resource Conservation and Recovery Act (RCRA) compliant landfill. The site has been in Operation and Maintenance (O & M) since July 1991, and O & M responsibility was handed over to LDEQ by EPA in July 2001. The entire site was flooded during the

Bayou Bonfouca Treatment Plant for Creosote Contaminated Groundwater

2005 Katrina flood; the site was approximately two feet under water. This resulted in damage to the treatment plant, recovery well system, and the buildings on-site. Fortunately, the grass covering the landfill cap was left intact showing no erosion.

The post-Katrina damage and repair report included a cost estimate performed by CH2M HILL surveys in September 2005. Site repairs occurred during FY 2006-07 and will continue into FY 2007-08. LDEQ is working with the Division of Administration to obtain FEMA reimbursement for site repair expenses, which include installation of new motors, pumps and generators. Despite the damage, site operators are managing to keep the systems functional while repairs occur and equipment is being replaced.

Bayou Bonfouca Incinerator Ash under RCRA Cap

Calcasieu Estuary (Bayou d'Inde)

Agency Interest # 7443
Sulphur, Louisiana

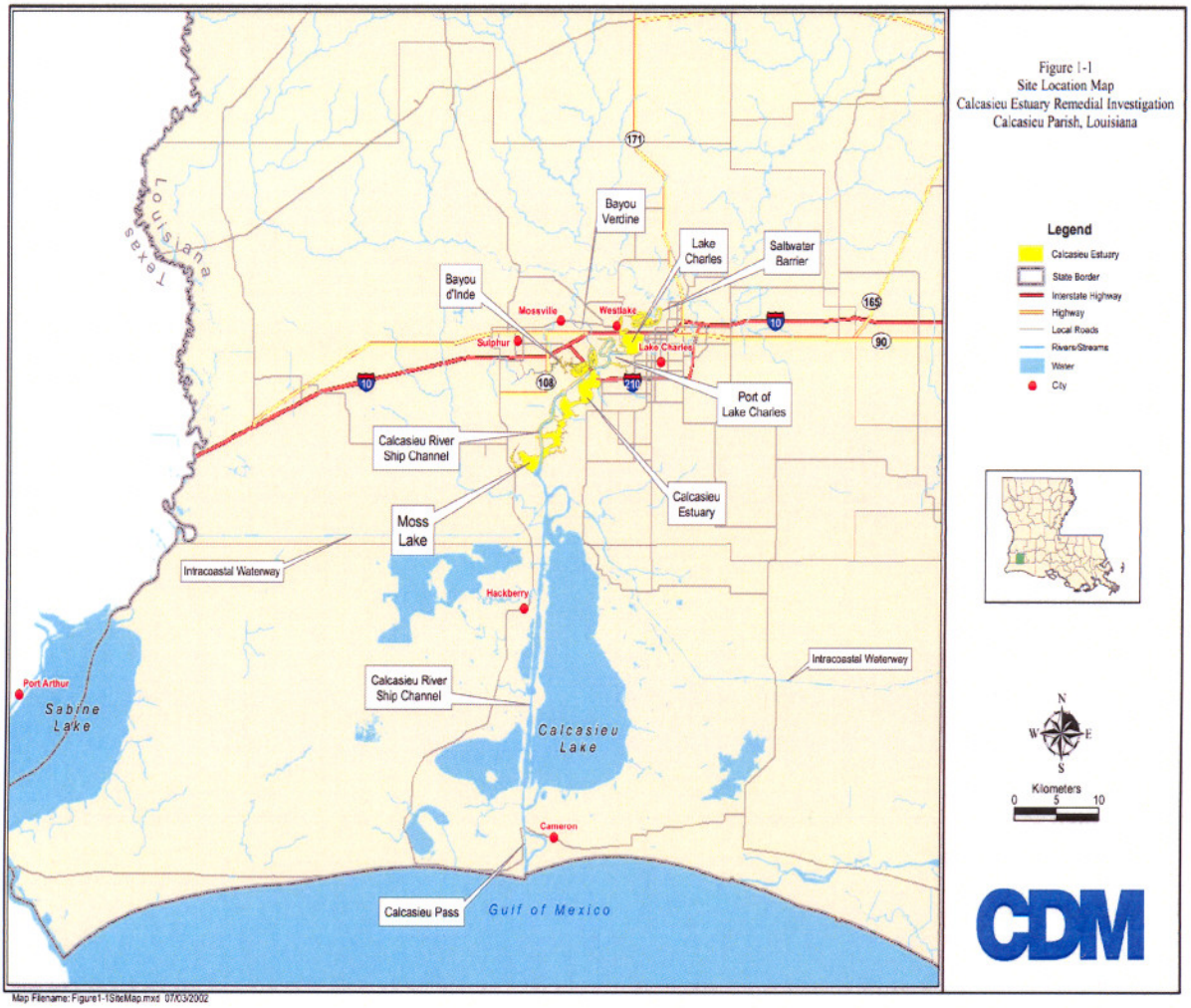
The Calcasieu Estuary, located in southwest Louisiana, includes an industrialized area in which several chemical and petroleum refining industries began operating in the early 1920s. These companies produced a wide variety of industrial chemicals, petroleum products, and commercial feedstock. In 1999, EPA conducted a remedial investigation and identified five areas within the estuary that required further response action. In May 2003, LDEQ and EPA signed a Memorandum of Agreement (MOA) designating LDEQ as the lead agency for two of the areas, including Bayou d'Inde. Four of the five industrial locations identified in EPA's remediation investigation report of Bayou d'Inde entered into a Cooperative Agreement (CA) with LDEQ.

The primary objective of the CA was to conduct a Corrective Action Study (CAS) to evaluate remedial alternatives for the Bayou d'Inde site. The CA also included requirements for the submittal of several technical documents from the Potential Responsible Parties (PRPs) to LDEQ. All of those required documents were submitted to LDEQ and approved. The final document scheduled for submittal to LDEQ is the CAS. Recently the PRPs submitted additional information to support the CAS. LDEQ is currently reviewing that information and after approval the PRPs will submit the CAS. The CAS will recommend the remedial alternatives for the Bayou d'Inde site. LDEQ anticipates receiving the CAS by early 2008.

Meetings have been conducted periodically with the Calcasieu Estuary task force since the beginning of the project to update the members on the current status of the Bayou d'Inde site. The meetings will continue throughout the duration of the project. The members of the task force represent public officials, citizen groups, industry, McNeese State University, LDEQ, and other state and federal agencies. The task force is chaired by the Calcasieu Parish Administrator. The next meeting is anticipated for the first quarter of 2008.

Calcasieu Estuary (Bayou d'Inde)

Site Location Map



Calcasieu Estuary (Bayou d'Inde)

Areas of Concern and Major Water Features

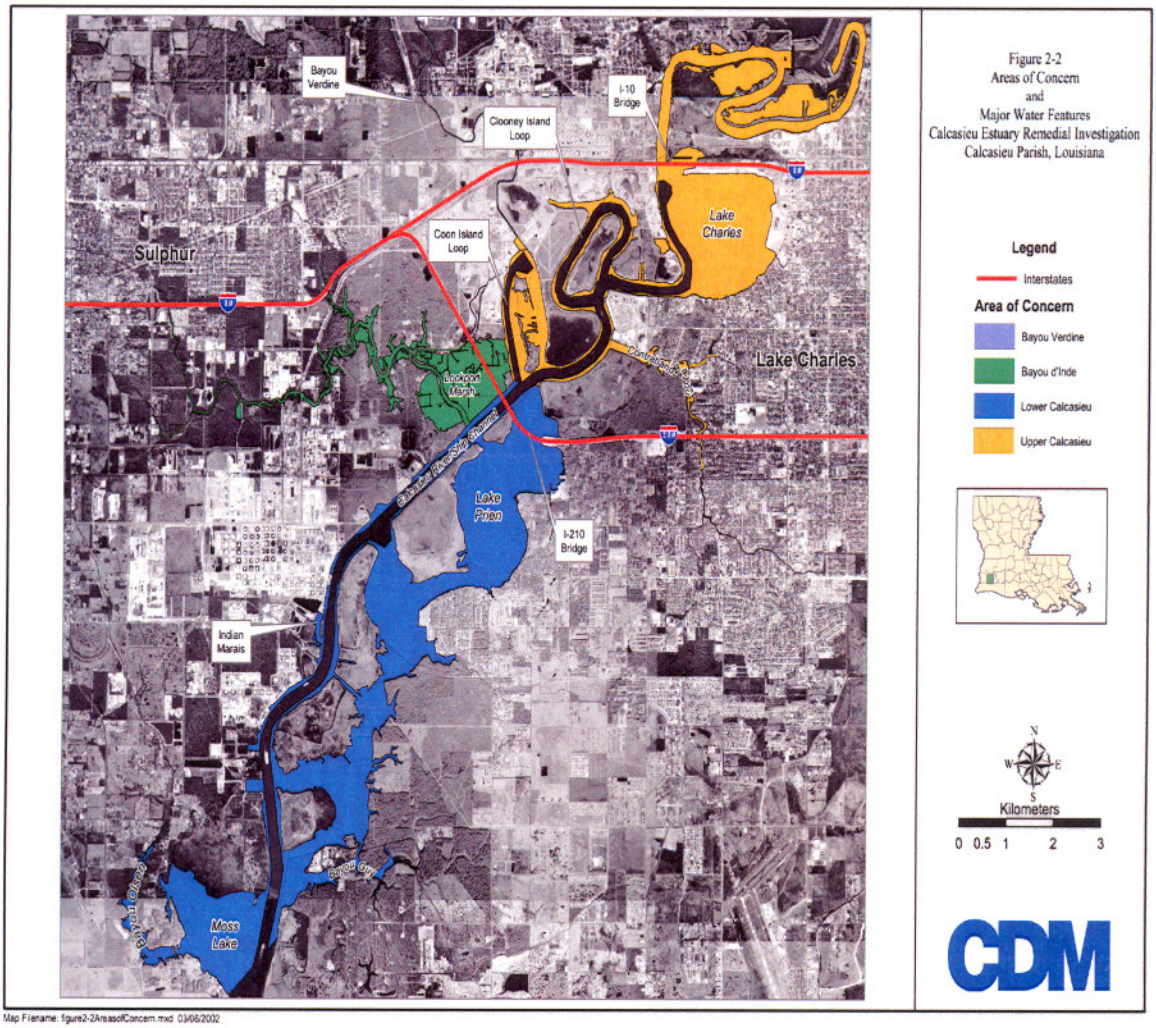


Figure 2-2
Areas of Concern
and
Major Water Features
Calcasieu Estuary Remedial Investigation
Calcasieu Parish, Louisiana

Legend
Interstates
Area of Concern

Map Filename: figure2-2AreasofConcern.mxd 03/06/2002

Citgo – Lake Charles Manufacturing Complex

Agency Interest # 5414
Sulphur, Louisiana

The Citgo Petroleum Complex, located in Lake Charles, along the Calcasieu River, consists of a petroleum oil refinery and a lubricating and wax plant. In December 2006, the facility completed Phase I of the Surge Pond Remedial Facility Investigation (RFI) and submitted the completion report in June 2007. Additionally, the facility completed the final revisions to the Phase I RFI work plan in May 2006 for the remainder of the facility which includes 57 areas of potential and confirmed contamination, as well as groundwater throughout the facility. LDEQ approved the work plan in June 2006 and the facility has initiated steps to implement the investigations.

LDEQ is working with the facility to standardize and improve the various groundwater monitoring programs and the facility has proposed a monitoring program that exceeds regulatory requirements. LDEQ is also in the process of renewing and drafting new permits for various solid and hazardous waste units and working amicably with the facility to resolve any issues associated with the permit applications. Additionally, LDEQ assisted the Coast Guard with the response and clean-up of the oil spill in the Calcasieu River and is continuing assistance in the bioremediation of the residual oil impacting the banks of the Indian Marais and lagoon from the spill.

In June 2007, the sheet pile bulkhead addition engineering and construction project was completed in conjunction with other ongoing voluntary efforts to ensure long-term protectiveness and to aid with closure efforts for the Refinery Surge Basin and the Indian Marais lagoon area. This project involved the engineering design and construction of a sheet pile wall addition along the Calcasieu River Ship Channel adjacent to the surge pond and the lagoon area. Citgo elected to proceed in a pro-active mode to construct this sheet pile wall as an added measure to assure long-term protectiveness of this area. The sheet pile wall starts immediately at the north end of

the existing lagoon bulkhead and continues northward approximately 2400 feet, which is close to the south end of the Citgo "A" Dock.

In May 2007, the facility began a subaqueous capping field demonstration/pilot study of subaqueous capping methods in the Indian Marais lagoon. This study will provide direct information and data regarding the viability of this technology at this location, which will be invaluable during the future evaluation of all appropriate closure technologies as required under the Administrative Order.

Citgo Lagoon Showing the Barge used to Place the Sand Cap

The subaqueous cap placement was initiated over a pilot test area of the lagoon to test application procedures as well as instrumentation associated with monitoring sand placement. The pilot test area occupies approximately three acres of the southernmost section of the lagoon. Placement of the subaqueous cap in the pilot test area was successful and enabled Citgo to make field adjustments with placement techniques and monitoring. Placement of the sand cap in the second segment of the lagoon was initiated the week of June 4th and is proceeding smoothly to date. Citgo will continue to place the sand cap in segments moving from south to north. The primary study is envisioned to continue for

Core from the Citgo Lagoon Showing Mixing Zone with Lagoon Sediment and Initial Lift of Sand

at least one year. However, this time frame could be adjusted based on discoveries during construction.

In conclusion, LDEQ has facilitated the completion of numerous beneficial activities at the facility by providing an open dialogue with the facility and efficient review of submittals and has provided oversight of these activities to ensure the protection of public health and the environment.

Combustion, Inc.
Agency Interest # 2941
Denham Springs, Louisiana

The Combustion, Inc. site is a former oil recycling facility located in Livingston Parish north of Denham Springs. A surface cleanup was completed in 1993. Interim measures for the remediation of groundwater contamination included phytoremediation. Phytoremediation is the direct use of living green plants to remediate or stabilize contaminants in soil, sediment, surface water, or groundwater. Trees were planted in the former process area to provide treatment for the shallow groundwater. Following a progress evaluation for the interim measures, a program was developed in conjunction with LDEQ and LDAF to diversify the tree species to include more trees native to Louisiana. This program, implemented in early 2005, included removal and replacement of selected underperforming trees in the former process area. In addition, replanting in some parts of the former process area required demolition and removal of hardcore material (compacted shell and asphalt) to allow for root growth and aeration of the soil. In 2005, the site was severely disrupted by Hurricanes Katrina and Rita causing extensive damage, including the loss of approximately 190 mature trees. A third replanting program was conducted in late 2005 to replace trees lost in the two storms.

Process Area – January 2005

The selected remedy for the site is phytoremediation plus natural attenuation. The remedy implementation was completed in April 2006 and consisted of planting and maintaining over 1,000 trees including 11 different species and incorporating trees

from each of the three previous plantings. Tree species selected for the 2006 planting in the tree stands southeast and southwest of the former process area included oaks, willows, pines, cypress, cottonwoods and sycamores. The site improvements for the tree stands consisted of modifications for area drainage, installation of an extensive irrigation system and placement of mulch to improve soil health.

Since the remedy implementation was completed the site has transitioned from planting activities to maintenance and site monitoring. Maintenance of the phytoremediation includes frequent inspection of the trees, irrigation and deep root watering when needed, application of fertilizer, treatment for insects and a range of other activities associated with maintaining healthy trees.

Monitoring conducted on-site includes semiannual groundwater sampling, measurement of sap flow, tree growth parameters and canopy closure. Additional monitoring includes rhizosphere soil gas sampling and measurement of meteorological data utilizing the on-site weather station. The tree measurement and meteorological data were used to estimate that trees planted in the former process area have an approximate transpiration rate of 1.9 million gallons per year. Observations of site conditions indicate that groundwater levels have declined significantly and this decline was especially noted during the growing season.

Process Area – July 2007

A review of the groundwater sampling results indicates that significant reductions in the concentration of indicator constituents have occurred since the implementation of

the remedy. LDEQ anticipates that further reduction in the concentration of indicator constituents will be achieved over time leading up to the five year review.

The parameters for the five year review are that the preferred remedy demonstrate that the chemicals, EDC (1,2 Dichloroethane) and TDA (2,4/2,6 Toluenediamine), in groundwater at the site have decreased 10% during the first five years of the remedy. If the preferred remedy does not meet the specified criteria when evaluated during the five year review, then the contingency remedy, hot spot treatment, would be used. The contingency remedy would utilize the technologies evaluated during the treatability study (in-situ chemical oxidation and/or enhanced biodegradation) to provide additional treatment in the more highly concentrated areas of the groundwater plume.

Dixie Metals Corporation
Agency Interest # 2411
Heflin, Louisiana

The Dixie Metals Corporation site is located on Highway 531 in Webster Parish in the town of Heflin, Louisiana. In the late 1960's, Heflin Industries purchased the property to begin a battery breaking and secondary lead smelting operation at the site. Sometime between 1968 and 1974, the facility became a Dixie Metals Corporation facility. General Battery Corporation acquired Dixie Metals Corporation, including the site, in 1974. The plant was expanded in 1977 and ceased operation in 1982.

Investigative field work at the Dixie Metals Corporation site began in 1998 and 1999. The resulting report on completed sampling and analysis, submitted by the potentially responsible parties (PRPs), was approved by LDEQ in August 2000. Eight revisions to the PRP-submitted Remedial Action Work Plan were required prior to LDEQ approval in August 2005. Subsequent remedial action work that occurred in 2006 and 2007 is detailed below.

Soil and sediment remediation continued at the Dixie Metals Corporation site during FY 2006-07. Site soil removal was completed during early October 2006. The volume of site soil remediated between July 1, 2006 and completion was approximately 36,000 cubic yards (yd^3). The total volume of site soil excavated since implementation of the remedial action work plan was approximately 67,000 yd^3. This represents nearly a 20,000 yd^3 increase from the original design. The increase in volume was primarily the result of additional battery casing materials encountered in the former north landfill area. Restoration of the on-site areas was performed using a combination of regrading to eliminate low areas and use of approximately 3,000 yd^3 of soil fill imported from an off-site borrow source. The regraded surface reproduced original drainage patterns and was stabilized with a bermuda grass and annual rye grass seed. Seeding was performed in sections as restoration was completed.

Sediment in the portions of Parmers Creek on the site and in drainage ditches along Route 531 was remediated beginning in mid-August 2006. A number of utilities were encountered in the Route 531 right-of-way that required use of hand excavation techniques. Excavation of Route 531 and on-site sediment was completed in early October. Approximately 6,000 yd^3 of sediment and soil were excavated from these areas. The completed excavation areas in the ditches along Route 531 were restored using soil imported from an off-site borrow source. On-site areas were restored using a combination of imported soil and soil generated immediately along the Parmers Creek banks. The restored area was hydro-seeded with a mixture of bermuda grass and annual rye in late 2006 and over-seeded in May 2007. By June 30, 2007 the vegetation along Route 531 and in the on-site portions of Parmers Creek were well established.

Off-site Parmers Creek excavation was performed between October 7, 2006 and October 23, 2006. Post-excavation sample results confirmed that additional excavation was required in several portions of the creek. The total volume of sediment remediated from Parmers Creek was approximately 5,400 yd^3. Following completion of excavation Parmers Creek was backfilled using soil imported from a nearby borrow source to approximate pre-remediation drainage and topographic conditions. The restored area was hydro-seeded with a mixture of bermuda grass and annual rye in late 2006 and over-seeded in May 2007. By June 30, 2007 the vegetation in Parmers Creek was well established.

Geomembrane Deployment
View Looking Towards Northeast

Off-site soil removal was begun and substantially completed in July and August 2006. The volume of off-site soil remediated between July 1, 2006 and completion was approximately 5,800 yd^3. Restoration of the off-site areas was performed using soil fill imported from an off-site borrow source. The regraded surface reproduced original drainage patterns and was stabilized with a bermuda grass and annual rye grass seed. Seeding was performed in sections as restoration was completed.

Soil and sediments remediated from on-site and off-site areas were placed in lifts in the on-site containment cell. A total of approximately 85,000 yd^3 of excavated materials were placed in the cell, which represents approximately a 50% increase in the anticipated excavation volumes. The footprint of the containment cell was increased by 3.6 acres, as proposed in the remedial action work plan, to approximately 4.8 acres to accommodate the increased volume. The geomembrane component of the cap was substantially complete by November 30, 2006. Cover soil and topsoil for the containment cell was imported from the same off-site borrow source used for imported backfill. The 18" thick layer of cover soil was substantially completed by early January 2007.

Work was stopped in late January 2007 because of excessive amounts of rain. Work resumed in mid-April 2007. The containment cell cap was completed in late May 2007 and the contractor demobilized in June 2007. At this time final surveys of the site have been completed and as-built drawings are being finalized for inclusion in the remedial action completion report.

View of Parmers Creek from Sta 14+00 Looking Upstream (Following Restoration)

Marine Shale Processors
Agency Interest # 5414
Amelia, Louisiana

On September 11, 2006, the United States District Court for the Western District of Louisiana, Judge Duplantier presiding, Case No. CV-1240, entered a Stipulation of Settlement and Judgment (Stipulated Judgment) among the United States, EPA, LDEQ, Marine Shale Processors (MSP), Recycling Park Inc. (RPI), and John Kent, Sr. (Kent). Under the Stipulated Judgment, $6,225,995 on deposit in the court registry, plus interest, was paid to the LDEQ. Upon receipt, LDEQ was required to deposit the funds in an interest bearing escrow account. LDEQ is required to expend such funds solely for the closure and remediation of the contamination at the MSP facility and/or the RPI facility. An additional letter of credit posted by MSP and issued by Hibernia National Bank in the amount of approximately $850,000 also will be transferred to LDEQ and used for the cleanup of the MSP and RPI facilities. A public hearing was held on July 19, 2006 to allow the public to comment on the proposed settlements. A separate settlement was also discussed for a related site, Recycling Park, Inc., where a majority of the ash produced by Marine Shale is stored. The activities conducted at Recycling Park, Inc. are summarized in the site summary following Marine Shale Processors on page 55.

On April 17, 2007, LDEQ awarded a contract under emergency authorization by the Secretary to begin remediation activities at MSP. The site, located at 9828 Highway 182 East in the Amelia area, was the location of a hazardous waste incinerator. The objective of the Phase I Removal Action Plan is the containment of primary ash and untreated hazardous wastes by removal of these materials from the site and disposal at a permitted hazardous waste facility to prevent migration of waste off-site and to prevent exposure to human and environmental receptors.

LDEQ has separated the initial removal action into two phases. Some of the tanks are in deteriorating conditions and are severely corroded. In order to prevent a

catastrophic release to the environment, those tanks determined to be in critical condition were selected for an expedited removal action Phase I. The second phase will include removal of the remaining waste in the tanks not covered under Phase I, waste in the open barge tanks, waste in the small containers and drums, as well as waste in some of the equipment.

Six of the Thirteen Tanks Slated for Removal During Phase I Showing the Corrosion near the Tops of the Tanks

The Phase I Removal Action will include removal of hazardous solid and liquid material from the 13 tanks specified for the Phase I Removal Action and off-site disposal of this material at an approved RCRA Subtitle C disposal facility. Most of this material requires stabilization before disposal. The final step will be the decontamination and scrapping of the tanks. The work plan for the Phase I Removal Action was submitted in May 2007. Deployment to the site is scheduled for September 2007.

Recycling Park Inc.
Agency Interest # 24078
Amelia, Louisiana

On September 11, 2006, the United States Department of Justice (DOJ), EPA Region 6, and LDEQ, on behalf of the State of Louisiana entered into a Consent Decree with Southern Wood Piedmont ("SWP") and its parent Rayonier, Inc. ("Rayonier"). The two companies agreed to perform a corrective action and cleanup at the Recycling Park Inc. facility by placing a protective cap over the hazardous constituents in accordance with a work plan approved by EPA and LDEQ.

Between February 2007 and June 2007, LDEQ oversaw the performance of the on-site remediation activities at the Recycling Park Inc. site. The site, located on Lake Parlourde Bypass Road in the Amelia area, was used to store over 300,000 tons of ash containing hazardous constituents. The ash was produced by a nearby hazardous waste incinerator operated by Marine Shale Processors. This remediation project addressed three areas (A, B, and C) of the site that were evaluated under a December 2004 risk assessment. After reviewing the previous history of the RPI facility and the sampling results and analysis contained in the RPI risk assessment, EPA and LDEQ determined that the remedial measures set forth in the work plan attached to the Consent Decree will be protective of human health and the environment at the RPI facility and authorized SWP to implement such remedial measures.

Area B Showing Ash Material in the Grading Process

Following stripping and stockpiling of existing clay cover, the contractor graded the ash to the proposed grades per the Consent Decree. The site was graded under using a track-mounted bulldozer equipped with a GPS system. Ash that was placed as fill to achieve

the required grade was placed in no more than 12-inch lifts and compacted by four passes with a sheep-foot roller, per the project specifications. After grading of the ash was complete and the finished sub-grade was considered suitable for placement of the clay liner, clay material meeting the project specifications was placed in 6-inch compacted lifts. A total of four 6-inch lifts of compacted clay was placed on each area pile. Following completion of each lift of clay fill the finished sub-grade was fine-graded to specifications using the GPS enabled bulldozer.

Area B Showing Completed Cap

The clay that was used as compacted cover came from various sources which included existing on-site clay that originally covered each area prior to removal, stock-piled material to the south and west of Area A, on-site borrow (between Area C ash piles and 300 feet west of Area C piles), and an off-site borrow from the Moffett Property, East of Area B. Standard Proctor and permeability results were conducted regularly to ensure proper placement. The caps were then covered with 12 inches of topsoil. After the topsoil had been placed and tested for compaction, the disputed material piles in Area A, B and C were ready for seed placement. The seed mix utilized by the contractor met Louisiana Department of Transportation criteria per the project specifications and the Consent Order. Due to the wet time of year the seeding was performed, the contractor supplemented the mix with millet, to provide better initial erosion protection.

Bald Eagle Nest near Area C

Due to the presence of bald eagles on the property, the Fish and Wildlife Service had initially restricted work activity within 650 feet of the eagles' nest, which included Area C. On April 2, 2007, the Fish and Wildlife

Service determined that the bald eagles had vacated their nest. Therefore, the contractor was given permission by the Fish and Wildlife Service to perform work activities in Area C.

Due to dust and runoff being issues for this project, engineering controls were put in place to prevent or greatly reduce impact to the surrounding environment and public. The silt fence was put in place according to the specifications required by the Consent Decree. Any time the disturbed area increased, the silt fence was moved to incorporate the newly disturbed area. Also, during the time that disputed material was either uncovered or was being graded to meet requirements, all uncovered areas were moistened by using a water truck. LDEQ personnel inspected the placement of the caps to verify proper placement at the completion of the project.

Thompson Hayward
Agency Interest # 1275
New Orleans, Louisiana

Between October 2006 and June 30, 2007, LDEQ oversaw the performance of the on-site remediation activities at the Thompson Hayward site. The site, located on 7700 Earhart Boulevard in the New Orleans area, was impacted with dry cleaning fluids and banned pesticides and herbicides. This remediation project addressed areas of the site that were excluded from an earlier remediation effort performed between 1989 and 1990. Remediation of this area was delayed to afford the responsible parties time to find and employ appropriate technologies capable of handling both the nature and perceived severity of the contaminated media.

The 2007 remediation proceeded in accordance with a 1997 cooperative agreement between LDEQ, Louisiana Department of Agriculture and Forestry (LDAF) and the potential responsible parties, namely, T. H. Agriculture and Elementis Chemical. Site remediation activities entailed the excavation and off-site treatment and disposal of soil material; extraction and off-site disposal of contaminated sediment and water from two nearby storm drain lines; the demolition and removal of the on-site warehouse; and finally, the restoration of the soil at the property. Remediation was conducted subject to site specific remedial action levels (RALs) developed during the risk assessment that were mandated by the 1997 cooperative agreement. Due to the proximity of commercial and residential dwellings to the site, the remediation was conducted in a manner that presented the least amount of impact to the safety of the

Pre-remediation
Post-Katrina Picture taken from Burdette Street
Side and Facing East

public. Some of the instituted safety measures included the piece-by-piece demolition of the warehouse to reduce dust emission and the performance of soil excavation in an enclosure called the Enclosed Remedial Activities Building (ERAB). The ERAB was a 70'x90' engineered stress membrane structure that was fitted with a ventilation/air filtration system and other ancillary equipment to produce negative pressure, consequently preventing or reducing remediation related air emissions.

Post-remediation
Picture of the Former Thompson Hayward Site, taken from Burdette Street Side and Facing East

During the course of the remediation, 723 tons of hazardous debris was disposed of by micro-encapsulation at the Clean Harbors facility in Lone Mountain, Oklahoma. Over 4800 tons of excavated soil, classified as hazardous waste, was disposed of by incineration at facilities located in both Deer Park, Texas and Kimball, Nebraska. About 5800 tons of construction and debris waste was disposed of as solid waste at the Riverbirch Landfill in Garyville, Louisiana. Also, approximately 106,000 gallons of site related contact liquid was treated or disposed of at Clean Harbor facilities in Deer Park, Texas and Baton Rouge, Louisiana. The remediation process will conclude following the implementation of appropriate land use restrictions such as fencing of the property and placement of an approved conveyance notice at the Orleans Parish Clerk of Court's office. This process is anticipated to be concluded before December 31, 2007.